

**BY ORDER OF THE COMMANDER
442D FIGHTER WING**



442D FIGHTER WING INSTRUCTION 21-114

26 MARCH 2004

Maintenance

**SPECIALIST HANDLING-SQUIB
CARTRIDGES**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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Supersedes 442 FWI 21-114, 10 October 2002 Pages: 7
Distribution: F

This instruction implements Air Force Policy Directive (AFPD) 21-2, *Nonnuclear and Nuclear Munitions*. It establishes procedures for the accountability, security, installation, removal, ordering, receiving, inspection and handling of squib cartridges for the 442d Aircraft Maintenance Squadron (442 AMXS) Specialist Section. Supervisors, superintendents, and flight chiefs are responsible for ensuring compliance with this instruction. It is applicable to the 442 AMXS at Whiteman Air Force Base only.

SUMMARY OF REVISIONS

This revision updates the changes to the identification of the squadron. A bar (|) indicates a revision from the previous edition.

- 1. Explosive Limits:** Six (squib, fire extinguisher) for one aircraft, net explosive weight of .0007, hazard class division of 1.4S.
- 2. Personnel Limits:** Personnel limits will not exceed those allowed by the technical data (four maximum, two minimum of which two are casual). Stop all explosive operations when visitors are present.
- 3. Location of Operations:** Building 1117 hanger, building 1118 bays and A-10 aircraft parking ramp.
- 4. Safety Requirements:**
 - 4.1. Personnel will not transmit on land mobile radios (LMR) within ten feet of explosives. Cell phones are not be used within ten feet of explosives per Air Force Manual (AFMAN) 91-201, *Explosives Safety Standards*, Table 2.5.
 - 4.2. Personnel will dissipate static electricity prior to, and periodically, while handling explosives.

4.3. All Electrical/Environmental personnel will be trained in accordance with Air Force Instruction (AFI) 91-202, *The US Air Force Mishap Prevention Program*, Chapter 10, and qualified in the tasks to be performed.

4.4. There is no required protective personnel equipment (PPE) in order to perform this task..

| 5. Operating Procedures:

5.1. Ordering explosives:

5.1.1. The only time an explosive squib will be ordered is when there is a specific need (e.g., when the explosive was used/spent or requires time change).

5.1.2. The only individuals authorized to order explosives are those whose names appear on the front of the current Air Force (AF) Information Management Tool (IMT) 68, **Munitions Authorization Record**. This IMT is updated twice per year by the account custodian.

5.1.3. An AF IMT 2005, **Issue/Turn-in Request**, is to be filled out for each of the applicable explosive squibs when they have been expended. Contact the Munitions Storage Area (MSA) Munitions Control (442MXS/MXMWS) by phone (975-4666) informing them a demand will be placed for a specific part. The AF IMT 2005 is to be delivered to MSA so they can verify who ordered the part and justify the demand.

5.1.4. If the squibs are to be removed and replaced as part of a scheduled time change, such as when their service life has expired, then the appropriate Plans and Scheduling section is responsible for the ordering on an AF IMT 2005. One per each aircraft.

5.2. Receiving explosives:

5.2.1. MSA personnel will notify the ordering section when the requested part has issued. Only personnel listed on the back side of the current AF IMT 68 can receive explosives. At least one of these individuals must be present to sign for and pick up the part.

5.2.2. The receiver needs to ensure they have the explosives transport ammo can. The explosives transport ammo can must be manufactured for the express intent of the safe transport of squibs. The explosives transport ammo can used, must be an approved military issue ammo can and placarded properly for contents.

5.2.3. The MSA, Munitions Control Section will be contacted (975-4666) to schedule delivery of explosives. Production control section will coordinate explosives transport out of the MSA facility and to the Specialist Flight area for the transfer.

5.2.4. The maximum quantity of squibs authorized for receipt is an aircraft set (6 squibs), this is the maximum number that can safely fit in an explosives transport ammo can.

5.3. Inspection of explosives:

5.3.1. Specialist will perform the inspection directly over a flat grounded surface to prevent damage if dropped over a considerable distance.

5.3.2. Perform an inspection of each squib upon receipt and prior to installation, following the guidelines in **Attachment 2**.

5.3.3. If a discrepancy is found during the inspection of an explosive, it should not be accepted (organizational refusal) and returned to the MSA handler, after pointing out the reason. MSA will be responsible for providing the receiver with a replacement serviceable part.

5.3.4. After successful inspection, place the squibs in the explosives ammo can, ensuring each part is in its own container and item to item contact is prevented.

5.3.5. On the outside of the can, place the placard that annotates number, type, and classification of the contents (i.e.; 6 each squibs, Class: C 1.4).

5.4. Handling procedures:

5.4.1. No smoking within 50 feet.

5.4.2. Personnel who work with explosives must be trained and qualified in the tasks performed. They must understand all safety standards, requirements and precautions that apply. The supervisor must be knowledgeable of all the hazards involved in the operation, convey emergency procedures to the workers and visitors, and maintain strict housekeeping standards. The supervisor must also know what steps to take when abnormal conditions arise.

5.4.3. Minimum number of required personnel shall be present while handling and performing maintenance of explosives.

5.4.4. Explosive squibs will only be transported/carried in approved containers, such as the explosives transport ammo can.

5.4.5. If during handling, a squib is dropped from a distance of 10 feet packaged or 3 feet unpackaged, in accordance with Technical Order (T.O.) 11A18-14-7 WP20, *Storage and Maintenance Procedures -- Fire Extinguisher Cartridges*, to a hard surface, its condition is unknown and therefore should not be used. This is a safety of flight issue and the squib will be turned in as having exceeded drop limits.

5.4.6. Squibs will continuously have a safing device installed (such as a shunt), until directed to remove it by the aircraft T.O.

5.4.7. Individuals who handle squibs must ground themselves to an approved ground, on the ramp or by touching an unpainted surface of the aircraft or transport vehicle, prior to handling an explosive squib.

5.4.8. Explosives should not be handled during an electrical storm or when one is within a five nautical mile (5.75 miles) radius.

5.4.9. Do not use transmitters within 50 feet of explosive squibs (hand-held, or truck mounted radios, aircraft which are radiating radio frequency or any other radiation source).

5.5. Removal and installation procedures:

5.5.1. The removal and installation heading refers to the actual on aircraft explosive squib removal and installation. These guidelines augment the existing T.O. 1A-10A-2-21JG-7, *Job Guide for Fire Extinguishing System*, and provide guidance on the disposition of the squib after it is removed from the aircraft.

5.5.2. Follow all handling guidelines in paragraph **5.4.** during the removal and installation of squibs.

5.5.3. No concurrent maintenance shall be performed on the aircraft while explosives maintenance is in progress.

5.5.4. If the removal/installation of squibs is to be done in the hanger or on the parking ramp, the following guidelines are to be followed:

5.5.5. Restrict access by posting signs around the aircraft identifying "Explosives maintenance in progress, Do Not Enter".

5.5.6. Only personnel who are trained in safe explosives handling shall perform the required maintenance.

5.5.7. Minimum amount of personnel required to perform the task shall be allowed in the area.

5.5.8. During the removal and installation of squibs, only one item shall be removed and installed at one time and the explosives ammo can/shall be closed during the maintenance action.

5.5.9. After the maintenance action is complete, update the data on the top of the explosives ammo can (if changed).

5.6. Emergency procedures:

5.6.1. Emergency procedures in case of fire.

5.6.1.1. Evacuate nonessential personnel to a minimum of 300 feet.

5.6.1.2. Contact Fire Department by radio or by telephone at 975-1950.

5.6.1.3. Senior ranking fire fighter will take charge of situation upon arrival.

5.6.2. Emergency procedures in case of dropped or damaged squib.

5.6.2.1. Evacuate nonessential personnel to a minimum of 300 feet.

5.6.2.2. Contact Explosive Ordnance Disposal (EOD) and Fire Department by radio or by telephone at 975-1950.

5.6.2.3. Senior ranking fire department and EOD person will take charge of situation upon arrival.

5.6.2.4. In the case of any event of an emergency or unplanned event, cease all operations and notify Maintenance Control Facility (MOF) by the most expedient means available, who will notify the appropriate agency. Providing first aid is the priority, dial 9-1-1 if required.

5.7. Turn-in procedures:

5.7.1. The old explosive squibs are to be turned in as soon as practical, but within the same duty day they are to be handled, and transported in the same manner as the new ones.

5.7.2. Contact Munitions Control and establish a time for turn-in of explosives.

5.7.3. Use the AF IMT 2005, fill out all pertinent data for each document and have the Munitions personnel sign it at time of turn-in. Retain the signed copy for record.

6. Adopted or Prescribed IMTs.

6.1. Adopted. AF IMT 68, **Munitions Authorization Record**; AF IMT 2005, **Issue/Turn-in Request**.

| 6.2. Prescribed. No IMTs are prescribed by this instruction.

PATRICK A. CORD, Colonel, USAFR
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 21-1, *Nonnuclear and Nuclear Munitions*

AFMAN 91-201, *Explosives Safety Standard*

AFI 91-202, *The US Air Force Mishap Prevention Program*

T.O. 1A-10A-2-21JG-7, *Job Guide -- Organizational Maintenance – Environmental Control System, Fire Extinguishing System*

T.O. 11A18-14-7 WP20, *Storage and Maintenance Procedures -- Fire Extinguisher Cartridges*

Abbreviations and Acronyms

AF—Air Force

AFI—Air Force instruction

AFMAN—Air Force manual

AFPD—Air Force policy directive

EOD—explosive ordinance disposal

IMT—information management tool

LMR—land mobile radio

MOF—Maintenance Control Facility

MSA—Munitions Storage Area

PPE—protective personnel equipment

T.O.—technical order

Attachment 2**SQUIB AND INITIATOR INSPECTION CRITERIA**

INSPECTION ITEM	STATUS/REQUIRED ACTION
Shelf life exceeded	MAJOR/REJECT
Damaged threads or corrosion on threads	MAJOR/REJECT
Service Life exceeded	MAJOR/REJECT
Electrical connector damaged	MAJOR/REJECT
Minor surface external case or connector corrosion	MAJOR/Remove corrosion using a damp sponge/cloth or copper/aluminum wool
Cartridge slug missing or fired	MAJOR/REJECT
Electrical connector not fully seated in squib body	MAJOR/REJECT
Failed electrical check of applicable Technical Order	MAJOR/REJECT
Lot number and/or date of manufacture unknown	MAJOR/REJECT
Shunt/Safing device missing	CRITICAL/Install shunt, or manufacture one using MS20995C20 (or equivalent) safety wire with 8 each 1/4" loops to be installed across electrical pins of squib